

### ABSTRACT

The present invention relates to a catalyst for homo-polymerization or co-polymerization of  
5 ethylene, or more particularly to a solid complex titanium catalyst for homo-polymerization or  
co-polymerization of ethylene. The catalyst may be produced by preparing a magnesium  
solution by contact-reacting a magnesium halide compound with alcohol. Reacting the solution  
with an ester compound and a silicon compound. Then reacting the solution with a mixture of a  
titanium compound and a silicon compound.

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